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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

Application Number	10821390
Filing Date	2004-04-09
First Named Inventor	Mark Wallace
Art Unit	2611
Examiner Name	WONG, LINDA
Attorney Docket Number	040319

**U.S.PATENTS**

Examiner Initial*	Cite No	Patent Number	Kind Code <sup>1</sup>	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	6314147		2001-11-06	Liang, et al.	
	2	6441786		2002-08-27	Jasper, et al.	
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	9	6801790		2004-10-05	Rudrapatna	
	10	6816555		2004-11-09	Sakoda	
	11	6862271		2005-03-01	Medvedev, et al.	
	12	6940917		2005-09-06	Menon, et al.	
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	20	7200631		2007-04-03	Mailaender, et al.	
	21	7227906		2007-06-05	Fukuda, et al.	
	22	7317750		2008-01-08	Shattil	
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**U.S.PATENT APPLICATION PUBLICATIONS**

Examiner Initial*	Cite No	Publication Number	Kind Code <sup>1</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	20040002364		2004-01-01	Trikkonen, et al.	
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11	20060274844		2006-12-07	Walton, et al.	

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**FOREIGN PATENT DOCUMENTS**

Examiner Initial*	Cite No	Foreign Document Number <sup>3</sup>	Country Code <sup>2</sup>	Kind Code <sup>4</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T <sup>5</sup>
	1	2111619	RU		1998-05-20	Kvehlkomm Inkorporejted		<input type="checkbox"/>
	2	2116698	RU		1998-07-27	Fuba Automotive Gmbkh		<input type="checkbox"/>
	3	1220506	EP		2002-07-03	Kabushiki Kaisha Toshiba		<input type="checkbox"/>

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4	1396956	EP		2004-03-10	Mitsubishi Electric Info. Technology Centre		<input type="checkbox"/>
5	01076110	WO		2001-10-11	Qualcomm Incorporated		<input type="checkbox"/>
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8	04038984	WO		2004-05-06	Qualcomm Incorporated		<input type="checkbox"/>
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**NON-PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T5
	1	INTERNATIONAL SEARCH REPORT-PCT/US05/008738, INTERNATIONAL SEARCH AUTHORITY-EUROPEAN PATENT OFFICE-7-6-05	<input type="checkbox"/>
	2	WRITTEN OPINION-PCT/US05/008738, INTERNATIONAL SEARCH AUTHORITY-EUROPEAN PATENT OFFICE-7-6-05	<input type="checkbox"/>
	3	INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY-PCT/05/008738, INTERNATIONAL BUREAU OF WIPO, GENEVA SWITZERLAND-10-11-06	<input type="checkbox"/>

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4	ALAMOUTI, "A Simple Transmit Diversity Technique for Wireless Communications," IEEE Journal on Select Areas in Communications, Vol. 16, No. 8, October 1998, pp. 1451-1458.	<input type="checkbox"/>
5	BEM et al., "Smart Antennas for Mobile Communications Systems," INTERNATIONAL CONFERENCE ON MICROWAVES, RADAR AND WIRELESS COMMUNICATIONS, Vol.3, MAY 22, 2000, pgs.120-130, XP010537479	<input type="checkbox"/>
6	BOURDOUX et al., "Non-reciprocal transceivers in OFDM/SDMA Systems: Impact and Mitigation," RADIO AND WIRELESS CONFERENCE, August 10, 2003, pgs.183-186, XP010656728	<input type="checkbox"/>
7	BRUHL et al., "Investigation of Front-end Requirements for MIMO-Systems Using Downlink Pre-Distortion," EUROPEAN PERSONAL MOBILE COMMUNICATIONS CONFERENCE, 2003, pgs.472-476, XP002330243	<input type="checkbox"/>
8	DAMMANN, et al., "Beamforming in Combination with Space-Time Diversity for Broadband OFDM Systems," IEEE International Conference on Communications, 2002. ICC 2002. New York, NY, April 28-May 2, 2002. Vol. 1, pp. 165-171.	<input type="checkbox"/>
9	JUNGnickel et al., "A MIMO System with Reciprocal Transceivers for the Time-division Duplex Mode," ANTENNAS AND PROPAGATION SOCIETY INTERNATIONAL SYMPOSIUM, Vol.2, June 20, 2004, pgs.1267-1270, XP010721570	<input type="checkbox"/>
10	KAISER, "Spatial Transmit Diversity Techniques for Broadband OFDM Systems," IEEE Global Telecommunications Conference, 2000. GLOBECOM '00. San Francisco, CA, Nov. 27-Dec. 1, 2000, Vol. 3, pp. 1824-1828.	<input type="checkbox"/>
11	LAROA R et al., "Enhanced Opportunistic Beamforming," VEHICULAR TECHNOLOGY CONFERENCE, 2003. VTC 2003-FALL. IEEE 58TH ORLANDO, FL, USA 6-9 OCT. 2003, pgs.1762-1766, XP010702878	<input type="checkbox"/>
12	LIU et al., "OFDM-MIMO WLAN AP Front-end Gain and Phase Mismatch Calibration," IEEE RADIO AND WIRELESS CONFERENCE, September 2004; pgs.151-154, XP002330244	<input type="checkbox"/>
13	NARULA, et al., "Performance Limits of Coded Diversity Methods for Transmitter Antenna Arrays," IEEE Transactions on Information Theory, Vol. 45, No. 7, Nov. 1999, pp. 2418-2433.	<input type="checkbox"/>
14	PAN, et al., "Dynamic Sub-channel Allocation with Adaptive Beamforming for Broadband OFDM Wireless Systems," IEEE Global Telecommunications Conference, 2002. GLOBECOM '02. Taipei, Taiwan, Nov. 17-21, 2002, New York, NY, Nov. 17, 2002, Vol. 1, pp. 711-715.	<input type="checkbox"/>

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15	IEEE Std. 802.11a-1999, Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications, Amendment 1: High-Speed Physical Layer in the 5 GHz Band	<input type="checkbox"/>
16	IEEE Std. 802.11g-2003, Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications, Amendment 4: Further Higher Data Rate Extension in the 2.4 GHz Band	<input type="checkbox"/>
17	"Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications: High-Speed Physical Layer in the 5GHz Band," IEEE Standards 802.11a, September 1999	<input type="checkbox"/>

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Examiner Signature		Date Considered	
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